

REMARKS

Claims 1, 3-15, 17-24 and 26-29 are currently pending in the application. Claims 2, 16 and 25 have been cancelled. Reconsideration and further examination are respectfully requested.

Claim Rejections – 35 U.S.C. § 103

Claims 1-13 and 24-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Korobkov et al. (U.S. Pub. No. 2003/0123383) (hereinafter “Korobkov”) in view of Cleveland et al. (U.S. Pat. No. 7,224,742) (hereinafter “Cleveland”) and further in view of Applicant’s Admitted Prior Art (hereinafter “AAPA”). Claims 2, 16 and 25 were rejected in view of Korobkov. To establish a prima facie case of obviousness, certain criteria must be met. One such criterion requires the prior art reference or references, when combined, to teach or suggest all the claim limitations. With the above requirements in mind, Applicants have amended the independent claims and present the following arguments.

Applicants have amended independent claim 1 to include the limitations of dependent claim 2. Therefore, Applicants will discuss the rejection of claim 2.

With respect to amended independent claim 1, Applicants respectfully submit that Korobkov, Cleveland, and AAPA, solely or in combination, fail to teach or suggest “wherein each of the M signal filter circuits, that each correspond to a different one of said M separate subcarrier signal paths, is a fixed filter, at least one of the M fixed filters having a passband bandwidth at least equal to Y times the average frequency spacing between the N frequencies that said device can use as the N subcarrier frequencies, where Y is a positive number greater than 1.”

On page 6 of the Office Action, the Examiner indicates that Korobkov discloses these limitations. Applicants respectfully disagree.

First, Korobkov fails to teach or suggest “each of the M signal filter circuits, that each correspond to a different one of said M separate subcarrier signal paths, is a fixed filter.” Korobkov discloses a single TX filter and upconverter 54 as opposed to M signal filter circuits that each correspond to a different one of said M separate subcarrier signal paths. *See para. [0041].* In Korobkov, the single filter is used to filter the OFDM sequence generated for each subchannel n and upsample by a factor of Q_n . *See para. [0041].*

Second, Korobkov fails to teach or suggest “each of the M signal filter circuits is a fixed filter.” In fact, Korobkov actually teaches away from the present invention because the single filter used in Korobkov performs a frequency shift to a center frequency relative to the carrier frequency of the channel, which is not the function of a fixed filter. *See para. [0041].* By contrast, a fixed filter does not perform a frequency shift. One skilled in the art would not replace Korobkov’s TX filter 54 with a fixed filter.

Third, Korobkov fails to teach or suggest “at least one of the M fixed filters having a passband bandwidth at least equal to Y times the average frequency spacing between the N frequencies that said device can use as the N subcarrier frequencies, where Y is a positive number greater than 1.” That is, at least one of the M fixed filters has a passband at least as wide as N times the frequency spacing between subcarrier frequencies ($N\Delta f$). Korobkov does not teach or suggest a fixed filter that has a passband bandwidth at least equal to Y times the average frequency spacing between the N frequencies. Rather, Korobkov discloses a TX filter and upconverter that performs frequency shifting of all of the sub-channel signals to respective designated frequencies within the combined OFDM signal. Korobkov does not teach or suggest at least one of the M fixed filters having a passband bandwidth at least equal to Y times the average frequency spacing between the N frequencies.

Hence, Korobkov does not teach or suggest all of the limitations recited in independent claim 1.

Cleveland fails to remedy the deficiencies of Korobkov. Cleveland does not discuss or show a filter. Furthermore, Cleveland does not teach or suggest "wherein each of the M signal filter circuits, that each correspond to a different one of said M separate subcarrier signal paths, is a fixed filter, at least one of the M fixed filters having a passband bandwidth at least equal to Y times the average frequency spacing between the N frequencies that said device can use as the N subcarrier frequencies, where Y is a positive number greater than 1." Hence, Cleveland does not teach or suggest all of the limitations recited in independent claim 1.

AAPA also fails to remedy the deficiencies of Korobkov. AAPA discloses fixed filters used to reject high order harmonics relative to the frequency of the subcarrier to which the filter corresponds. However, AAPA does not teach or suggest "at least one of the M fixed filters having a passband bandwidth at least equal to Y times the average frequency spacing between the N frequencies that said device can use as the N subcarrier frequencies, where Y is a positive number greater than 1." Hence, AAPA does not teach or suggest all of the limitations recited in independent claim 1.

For at least the reasons stated above, Applicants respectfully request that the rejection of Claim 1 under 35 U.S.C. § 103(a) be withdrawn. Claim 1 is novel, non-obvious and patentably distinguishable over Korobkov, Cleveland, and AAPA, solely and in combination, and should be allowable.

Claims 14, 24 and 29 include similar features as independent claim 1 and therefore should also be allowable for similar reasons.

Regarding dependent claims 3-13, 15, 17-23 and 26-28, they depend from independent claims 1, 14 and 24, which are believed to be patentable, and thus dependent claims 3-13, 15, 17-23 and 26-28 are also novel, non-obvious and patentably distinguishable over Korobkov, Cleveland, and AAPA, solely and in combination.

CONCLUSION

In light of the amendments and remarks contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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